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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER	
MEHTA, ASHWIN D	

ART UNIT	PAPER NUMBER
1638	

DATE MAILED: 05/26/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/805,804	BAULCOMBE ET AL.	
	Examiner	Art Unit	
	Ashwin Mehta	1638	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *17 March 2006*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *33-36, 40, 41, 45-115* is/are pending in the application.

4a) Of the above claim(s) *45-59,81,82,84-92 and 108* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *33-36,40,41,60-80,83,93-107 and 109-115* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☒ Certified copies of the priority documents have been received in Application No. 09/491,549.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *11182005 & 3212006*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

1. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

2. The amendment filed March 17, 2006 has been entered.

3. The objection to the priority statement on page 1 of the specification is withdrawn in light of its amendment.

4. The objection to claims 77 and 100 are withdrawn in light of the claim amendments.

5. The rejection of claims 33, 35, 37-44 under 35 U.S.C. 102(b) is withdrawn, in light of the claim amendments.

6. The provisional double patenting rejection of claims 33-44, 60-80, 83, and 93-110 under 35 U.S.C. 101 as claiming the same invention as that of claims 33-44, 60-80, 83, and 93-110 of copending Application No. 11/013,469 is withdrawn in light of the claim amendments.

Election/Restriction

7. Amended claims 75, 97, and 108 indicate that the target gene is expressed by a parasite or predator that is within said cell of said organism (the elected organism being a plant). However, here the target gene is not expressed in the plant cell, it is expressed within the parasite or

predator, which is not the elected invention. The claims also indicate that the target gene is expressed by a virus, which is within the cell. As plant viral genomic nucleic acid is released and expressed within a plant cell, claims 75 and 97 will be examined only to the extent that they read on the target gene being a plant viral gene. Claim 108 does not encompass viral genes, and is withdrawn from consideration.

In the paper filed March 17, 2006, Applicants ask for clarification of the status of claim 45, which was indicated in the Office action mailed October 21, 2005 as being withdrawn from consideration (response, page 16). Claim 45 is withdrawn from consideration. The claims of originally elected Group I are drawn to a method. Applicants argued that a search for methods of inducing PTGS with any recombinant nucleic acid methodology would encompass RNA and DNA molecules (response to the restriction requirement, filed July 21, 2005). The Examiner found this argument persuasive and rejoined method claims 40-44, 66-68, 99, and 103 in the previous Office action.

Specification

8. The amendment filed March 17, 2006 is objected to under 35 U.S.C. 132(a) because it introduces new matter into the disclosure. 35 U.S.C. 132(a) states that no amendment shall introduce new matter into the disclosure of the invention. The added material that is not supported by the original disclosure is as follows: "corresponding complementary short sense RNA molecules". There is no written descriptive support for the recitation in the originally filed application. The recitation also appears in the claims, and the claim rejection below under 35 U.S.C. 112, 1st paragraph, for lack of written description, discusses the reasons why the recitation

is considered new matter. Applicant is required to cancel the new matter in the reply to this Office Action.

Claim Rejections - 35 USC § 112

9. Claims 33, 35, 40, 41, 75, 77, 78, 93-110 remain and claims 34, 36, 60-74, 76, 79, 80, 83, 111-115 are rejected under 35 U.S.C. 112, 2nd paragraph, for the reasons of record stated in the Office action mailed October 21, 2005. Applicants traverse in the paper filed March 17, 2006. Applicants' arguments have been fully considered but were not found fully persuasive. Rejections under 35 U.S.C. 112, 2nd paragraph applied in the Office action mailed October 21, 2005 that are not discussed below have been withdrawn in light of the claim amendments.

Regarding claims 33 and 40: the claims and those dependent thereon were rejected because the recitation, "silencing agent" was found indefinite. Applicants direct attention to page 8, lines 15-21 of the specification, where it is indicated that a silencing agent is preferably a SRM (emphasis added), and page 2 where SRMs are discussed (response, paragraph bridging pages 18-19, to page 19, last paragraph). However, the passage pointed out by Applicants indicates that a silencing agent is "preferably" a SRM. It remains unclear what else a silencing agent can be if it is not a SRM. The metes and bounds of the claims remain unclear.

Regarding claim 35: the claim was rejected because of the recitation, "silencing agent comprises short RNA molecules". Applicants point to the remarks made in response to the indefinite rejection above, and add that SRMs are effectors of gene silencing (page 20, 1st full paragraph). However, the silencing agent comprises the SRM, it does not consist of the SRM. It is unclear what else the silencing agent comprises.

Regarding claims 77, 100, and 109, and amended claims 33, 40, 60, 93, and 102: the claims were rejected because it is unclear how the same SRM (an individual nucleic acid molecule) can have both sense and antisense sequences. Applicants argue that SRMs are double stranded (response, paragraph bridging pages 20-21). However, the specification does not define SRMs as being double stranded molecules. Lines 12-20 of page 2 of the specification state that the present inventors have established that in every case of PTGS that they investigated, antisense RNA complementary to the targeted RNA was detected. Corresponding sense RNA molecules were also detected. The next paragraph states, "such sense and antisense RNA molecules (hereinafter, collectively, SRMs)". There is no mention of a SRM being a double stranded molecule. Rather, it is indicating that the sense and antisense RNA molecules are collectively being referred to as SRMs. That is, rather than constantly repeat the phrase "short sense and antisense RNA molecules" throughout the specification, it will simply say "SRM". There is no indication that the phrase "hereinafter, collectively, SRMs" is to be interpreted as meaning that a SRM is a double-stranded molecule. The paragraph spanning lines 10-27 of page 3 discusses reports in the prior art in which dsRNA was used to cause PTGS of a target gene in nematodes, and indicates that the instant disclosure provides evidence that SRMs may be a common mediator of PTGS in plants and higher organisms. However, it is not mentioned here that SRMs are double stranded molecules. The paragraph does not further discuss the relation between SRMs and the mentioned prior art. As discussed in the previous Office action, page 4 of the specification discusses what the abbreviation, "SRM" describes. Lines 22-25 states that it may be preferred to analyze or utilize SARMs rather than SSRMs, but that nonetheless, where reference is made to a SARM, SSRMs may also be used. The specification indicates here that

either SARMs or SSRMs can be used. If a SRM is a double stranded molecule, why would the specification teach that either a SARM or a SSRM can be used? Further, Example 1 discusses the detection of SRMs in plants. The first paragraph of the example states that analyses were performed to detect low molecular weight antisense RNA. Nowhere is it stated that analyses were performed to detect small double stranded RNA.

The recitation in the claims also rendered them indefinite because it is not clear how sense and antisense sequences can both be complementary to the same sequence. Applicants argue that, with respect to mRNA, SARMS are complementary to the target, while, with respect to the gene encoding the mRNA, the SSRMs are complementary to one strand while the SARMs are complementary to the other (response, paragraph bridging pages 20-21). However, claim 77 and amended claim 60 indicate that sense and antisense molecules are both complementary to an mRNA. Claims 100, 109 and amended claim 93 indicate that the sense and antisense RNA molecules are complementary to a target gene. Applicants argue that SSRMs are complementary to one strand of a gene while SARMS are complementary to the other. However, both strands of a gene do not encode the gene product.

10. Claims 33-36, 40, 41, 60-80, 83, 93-107, and 109-115 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claim 33: there is insufficient antecedent basis for the recitation, "the targeted region" in the last line.

In claims 33, 40, 60, 93, and 102: the recitation, "corresponding complementary" renders the claims indefinite. The specification indicates on page 2 that the present inventors have established that in every case of PTGS that they investigated, antisense RNA complementary to the targeted RNA was detected, and that the RNA molecules were of uniform length, around 25 nucleotides, and that corresponding sense RNA molecules were also detected. However, the specification does not explain what is meant by "corresponding." Example 1 in the specification indicates that 25 nucleotide long ACO antisense RNAs accumulated in a transgenic plant displaying co-suppression of the ACO gene, and that 25 nt ACO RNA of sense polarity was also detected, at the same abundance as the 25 nt ACO antisense RNA. However, the specification does not state that the sense 25 nt ACO RNAs were complementary to the antisense RNAs. It is unclear exactly what is encompassed by the recitation, "corresponding complementary" in the claims, making the metes and bounds of the claim are unclear.

In claim 75: there is insufficient antecedent basis for the recitation, "said organism".

In claim 97: there is insufficient antecedent basis for the recitation, "said cell".

11. Claims 33-36, 76 remain and claim 111 is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement, for the reasons of record stated in the Office action mailed October 21, 2005. Applicants traverse in the paper filed March 17, 2006. Applicants' arguments have been fully considered but were not found persuasive.

Regarding claim 76, Applicants argue that the rejection should be made under 35 U.S.C. 101, and that one skilled in the art is enabled to make a plant with reduced parasite resistance (response, page 26, 1st full paragraph). However, 35 U.S.C. 112, 1st paragraph requires that the

specification enable one to make and use the claimed invention, not just make it. Applicants argue that those skilled in the art would immediately appreciate that a plant with reduced parasite resistance would have the obvious utility of being a perfect test bed for anti-parasitic compounds using hyper-susceptible plants as a screen (response, page 26, 1st full paragraph). However, in order to enable the claimed invention, one would need to know the gene sequence of all plant parasite-resistance conferring genes, and the parasites that each of these genes confers resistance against. These are not at all taught or mentioned in the specification. See Genentech, Inc. v. Novo Nordisk, A/S, 42 USPQ2d 1001, 1005 (Fed. Cir. 1997), which teaches that "the specification, not the knowledge of one skilled in the art" must supply the enabling aspects of the invention.

Further, amended claim 33 now indicates that the silencing agent base pairs with the target gene. Claim 33 also indicates that the silencing agent comprises SRMs that in turn comprise SARMs and corresponding complementary SSRMs, which indicates that the silencing agent is double stranded. However, neither the specification nor the prior art teach that PTGS occurs by base pairing of a nucleic acid molecule with a gene within the genome of a plant cell, or how a double stranded nucleic acid molecule can base pair with another nucleic acid molecule. Undue experimentation would be required by one skilled in the art to use the claimed method to cause post-transcriptional gene silencing of a target gene by making the silencing agent base pair with genomic DNA, or any other nucleic acid molecule.

12. Claims 33-36, 40, 41, 60-80, 83, 93-107, and 109-115 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s)

contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

The claims are broadly drawn towards a method of silencing a target gene in an organism (the elected species is plants) by post-transcriptional gene silencing (PTGS), comprising introducing into a plant a silencing agent which base pairs with said target gene, wherein the silencing agent comprising short RNA molecules (SRMs) comprising SARMs and corresponding complementary SSRMs which are 25 nucleotides long plus or minus 1-5 nucleotides, and which are specific for the targeted region of the target gene; or a method of inhibiting the translation of a gene product in a plant cell by PTGS, comprising introducing into said cell at least one SRM, wherein the SRM comprises SARMs and corresponding complementary SSRMs, wherein the SRM has a sequence complementary to an mRNA that encodes said gene product; or a method of introducing systemic PTGS of a target gene in a plant, comprising introduction of a SRM or a transcribable nucleic acid construct encoding a SRM wherein the SRM comprises short RNA molecules 25 nucleotides in length, plus or minus 1-5 nucleotides and which have a nucleic acid sequence complementary to a portion of said target gene and wherein the SRM comprises SARMs and corresponding complementary SSRMs; or a method if inducing PTGS in a plant cell of an organism in vivo comprising introduction of a selected nucleic acid sequence wherein said nucleic acid is selected based on a finding that it induces the production of short 20-30 nucleotide RNA molecules, wherein said SRMs comprise SARMs and corresponding complementary SSRMs and wherein the nucleic acid is sufficiently complementary in sequence

specificity to a mRNA otherwise present in said cell to interfere with the stability and translation of said mRNA.

Lines 12-20 of page 2 of the specification state that the present inventors have established that in every case of PTGS that they investigated, antisense RNA complementary to the targeted RNA was detected. Corresponding sense RNA molecules were also detected. The specification does not define what is meant by "corresponding." Lines 22-23 of page 2 state, "There have been no previous reports of such short sense and antisense RNA molecules (hereinafter, collectively SRMs)..." The specification indicates on page 4, lines 4-14 that the term "SRMs" is used to describe short RNA molecules that are approximately 25 nucleotides in length, but they may be slightly more or less than this characteristic length, plus or minus 1-5 nucleotides (page 4, lines 4-14). The specification also indicates that, in performing the invention, it may be preferred to utilize short anti-sense RNA molecules (SARMs) rather than short sense RNA molecules (SSRMs), although it is to be understood that SSRMs can be used wherever SARMs are referenced (page 4, lines 20-25).

There is no written descriptive support for the recitation, "short RNA molecules comprising SARMs and corresponding complementary SSRMs" in the original application. This recitation appearing in the amended claims is NEW MATTER. There is insufficient written description support for an individual short RNA molecule to comprise both SARMs and SSRMs, and for the SSRMs being complementary to SARMs. Page 2 indicates that SSRMs and SARMs are collectively referred to as SRMs. However, the term, "collectively" is not synonymous with "complementary." Example 1 indicates that 25 nucleotide long ACO antisense RNAs accumulated in a transgenic plant displaying co-suppression of ACO, and that 25 nt ACO RNA

of sense polarity was also detected, at the same abundance as the 25 nt ACO antisense RNA. However, the specification does not state that the sense 25 nt ACO RNAs were complementary to the antisense RNAs.

In the papers filed March 17, 2006, Applicants indicated that the Examiner has supposedly acknowledged that the specification is enabling with respect to claims to the extent that they encompass SRMs that are double stranded (response, page 23, 1st full paragraph). However, the previous Office action did not acknowledge that the specification describes or contemplates SRMs as being double stranded molecules, or that a SRM can be a double stranded molecule. The previous Office action indicates that the specification defines SRMs as being single stranded (page 10, 1st full paragraph). Applicants argue that SRMs encompass double-stranded complementary SARMs and SSRMs, that where the single-stranded species is specifically referred to, then that reference is obviously intended to refer to the single stranded species, in contradistinction to SRMs, which refer to SSRMs and their complementary and corresponding SARMs (page 24). However, as discussed above, the specification does not define SRMs as encompassing double-stranded molecules. Applicants argue that passages on pages 2 and 3 of the specification make it clear that SRMs encompass double stranded complementary SARMs and SSRMs which correspond to each other (response, page 24). The passages of the specification pointed out by Applicants do not state that a short RNA molecule can be double-stranded. One of the passages of the specification pointed out by Applicants is the paragraph spanning lines 10-15 on page 3, which mentions that SRMs may be a common mediator of PTGS in plants and higher organisms, and that is was previously known that double stranded RNA molecules can induce a similar effect to plant PTGS in nematodes, insects, and

protozoa. However, that paragraph does not state that SRMs are to be interpreted in the instant specification as being double stranded molecules. The connection with double stranded RNA induced PTGS in nematodes is discussed again in the paragraph bridging pages 11-12, where it is stated that the same type of SARMs are present in C. elegans undergoing PTGS induced by ingestion of dsRNA, and that "plant SARMs may trigger the PTGS of any similar sequences present in the worm." Page 12, lines 17-20 states "Since dsRNA induced PTGS is conserved between nematodes, protozoa and insects it is likely that these other organisms which support PTGS may be susceptible to SARMs." Again, a distinction is made here between dsRNA and SRMs.

Applicants also argued that SRMs are double stranded in response to an indefinite rejection of claims 77, 100, and 109. The Examiner's response to those arguments, presented above, are incorporated here, as they apply to the issue raised in the instant rejection as well.

Further, in claims 75 and 97: the claims lack written description support for the recitation, "contained within said cell". There is no support for this recitation in the specification. The recitation is NEW MATTER and must be removed from the claims.

Claim Rejections - 35 USC § 102

13. Claims 33, 35, 40, 111, and 112 are rejected under 35 U.S.C. 102(b) as being anticipated by Waterhouse et al. (Proc. Natl. Acad. Sci., USA, November 1998, Vol. 95, pages 13959-13964).

The claims are broadly drawn towards a method of silencing a target gene in an organism (the elected species is plants) by post-transcriptional gene silencing (PTGS), comprising

introducing into a plant a silencing agent, wherein the silencing agent comprises short RNA molecules (SRMs) comprising short anti-sense RNA molecules (SARMs) and corresponding complementary short sense RNA molecules (SSRMs) which are 25 nucleotides long plus or minus 1-5 nucleotides, and which are specific for the targeted region of the target gene; or wherein the method comprises introducing into the plant a DNA construct containing operably linked to a DNA which upon transcription in a plant cell results in the silencing agent.

Waterhouse et al. teach a method of inducing PTGS of a target gene in plants, comprising transforming plants with a DNA construct that expresses the coding sequence of the target gene in sense and antisense orientations. The expressed transcripts are complementary and can be considered to be a silencing agent that comprises short RNA molecules comprising SARMs and complementary SSRMs which are 25 nucleotides long plus or minus 1-5 nucleotides (pages 13960-13962). As the same promoter is used to express the sense and antisense RNA molecules, they are present in equal abundance.

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

14. Claims 33-36, 40, 41, 60-62, 64-75, 77-80, 83, 93-101, and 111-114 are rejected under 35 U.S.C. 102(e) as being anticipated by Fire et al. (U.S. Patent No. 6,506,559) and evidenced by Applicants' admitted state of the prior art.

The claims are broadly drawn towards a method of silencing a target gene in an organism (the elected species is plants) by post-transcriptional gene silencing (PTGS), comprising introducing into a plant a silencing agent, wherein the silencing agent comprises short RNA molecules (SRMs) comprising short anti-sense RNA molecules (SARMs) and corresponding complementary short sense RNA molecules (SSRMs) which are 25 nucleotides long plus or minus 1-5 nucleotides, and which are specific for the targeted region of the target gene; or wherein the method comprises introducing into the plant a DNA construct containing operably linked to a DNA which upon transcription in a plant cell results in the silencing agent; or wherein the silencing agent consists of said SRMs; or a method of inhibiting translation of a gene product in a plant cell by introducing at least one SRM that is 25 nucleotides long plus or minus 1-5 nucleotides and comprises SARMs and corresponding complementary SSRMs, wherein said SRM has a sequence complementary to an mRNA that encodes said gene product, or wherein said SRM is transcribed from an introduced DNA vector, or wherein the target gene is expressed by a virus.

Fire et al. teach a method of silencing a target gene post-transcriptionally in plants, comprising expression of a dsRNA wherein one of the strands is complementary to a portion of the target gene. The method comprises expressing or introducing into cells short RNA molecules that are complementary and are in sense and antisense orientation with respect to a portion of the target gene sequence. The RNA molecules are at least 25 nucleotides in length.

The introduced nucleic acid can be RNA, or the RNAs can be transcribed from a DNA construct transformed into the plant. As the inhibition of target gene expression is post-transcriptional, the SRM does not affect transcription of the target gene, and prevents translation of the target transcript. As the sense and antisense RNA molecules form a double strand, they are present in essentially equimolar amounts. The target gene may be any gene, including endogenous genes that encode proteins involved in cell cycle regulation, signal transduction, transcriptional regulators, or genes from invading viruses (col. 6, line 32-col. 8, line 6; col. 8, line 32-col. 9, line 2; col. 11, lines 8-55; claims). That the PTGS of the target gene occurs systemically, in the embodiments wherein the RNA is not introduced into the cells of the host plant by expression from an introduced DNA construct stably integrated into the genome, is inherent to the method, as evidenced by Applicants' admitted stated of the prior art, which teaches that it was known in the art at the time of filing of the instant application that a systemic signal of PTGS travels out of plant cells and induces silencing in previously non-silencing parts of the plant (page 11, lines 25-28).

Summary

15. Claims 33-36, 40, 41, 60-80, 83, 93-107, and 109-115 are rejected. Claims 45-59, 81, 82, 84-92, and 108 are withdrawn from consideration.

16. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Contact Information

Any inquiry concerning this or earlier communications from the Examiner should be directed to Ashwin Mehta, whose telephone number is 571-272-0803. The Examiner can normally be reached from 8:00 A.M to 5:30 P.M. If attempts to reach the Examiner by telephone are unsuccessful, the Examiner's supervisor, Anne Marie Grunberg, can be reached at 571-272-0975. The fax phone numbers for the organization where this application or proceeding is assigned are 571-273-8300. Patent applicants with problems or questions regarding electronic images that can be viewed in the Patent Application Information Retrieval system (PAIR) can now contact the USPTO's Patent Electronic Business Center (Patent EBC) for assistance. Representatives are available to answer your questions daily from 6 am to midnight (EST). The toll free number is (866) 217-9197. When calling please have your application serial or patent number, the type of document you are having an image problem with, the number of pages and the specific nature of the problem. The Patent Electronic Business Center will notify applicants of the resolution of the problem within 5-7 business days. Applicants can also check PAIR to confirm that the problem has been corrected. The USPTO's Patent Electronic Business Center is a complete service center supporting all patent business on the Internet. The USPTO's PAIR system provides Internet-based access to patent application status and history information. It also enables applicants to view the scanned images of their own application file folder(s) as well as general patent information available to the public. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov.

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May 18, 2006

Ashwin D. Mehta, Ph.D.
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Art Unit 1638